DATE: November 08, 2000

MEMORANDUM

SUBJECT: Imazalil (PC Code 111901): HED's Response to Comments Submitted by Janssen Pharmaceutica on the Occupational Exposure Chapter Regarding the Use of Imazalil (DP Barcode D250162 and D250163). W. Goodwine and A. Eimanis letter; 07/12/00.

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DP Barcode: D270917

PC Code: 111901

INTRODUCTION:

The Health Effects Division (HED) acknowledges the comments received from Janssen Pharmaceutica (W. Goodwine and A. Eimanis letter; 07/12/2000) on the Occupational Exposure Chapter (D250162 and D250163). Attached are HED's responses to the comments submitted by Janssen Pharmaceutica.

A wide variety of application techniques have been identified that could potentially be used with imazalil, such as seed treatment, drenchers, smoke generators, fruit waxing equipment and hand held

equipment. There was no chemical specific data submitted by the registrant that could be used to perform the occupational exposure assessment.

Since there was a lack of chemical specific data and very little published literature that could be used to assess the unique exposure scenarios for imazalil, HED utilized the best available surrogate data to assess exposure scenarios associated with this chemical. The only source of exposure data available for the imazalil exposure assessment was PHED (mixer/loader data was used) and a non-chemical specific seed treatment handler exposure study which was conducted by Uniroyal on behalf of Janssen Pharmaceutica.

Based on the comments received from registrant the ORE chapter has been revised and some of the issues have been addressed in the revised chapter.

Below is the summary of HED response to the registrant:

Registrant's Comment (page 2):

Janssen claims that seed box/hopper box mixing is not practiced with imazalil or with cereal seed treatments either in small treatment operations or on-farm. Also, only dry/powders were used in this method and there are no dry formulation registered for seed treatment.

HED's Response:

This is an example wherein the only data available to HED to assess on-farm seed treatment was data from a published study by Fenske. HED is aware that the Fenske study utilized a dust formulation which by far has a higher potential for exposure than the imazalil emulsifiable concentrate formulations. It should be noted that the use of the Fenske data produced an acceptable risk. HED welcomes a study utilizing the liquid formulation of imazalil for the on-farm seed treatment, but lacking this data, HED has no other choice but to use Fenske's data to assess for this scenario.

Registrant's Comment (page 2):

Janssen questions the applicability of some of the scenarios assessed for imazalil. The scenarios in question are:

scenario 6 - applying liquid formulation with a drencher.
scenario 7 - applying liquid formulation with a foamer equipment.
scenario 8 - applying liquid formulation with waxing equipment.
scenario 13 - mixing/loading and applying seed treatment in a planter box for on-farm seed treatment.
scenario 5 & 9 - mixing/loading and applying liquid formulation with a high-pressure handwand.

HED's Response:

Scenario 6 - the registrant claims that drencher application is shielded by a building. However,

there are still unshielded drenchers in use, and HED strongly believes that there is a possibility of drift for both unshielded and shielded drenchers.

Scenario 7 and 8 - the registrant claims that the equipment is operated remotely. HED does not dispute this fact but included this scenario because of the possibility of the operator needing to enter the area to monitor the operation of the machinery or fix problems which could occur with the machinery.

Scenario 13 - Since the Fenske study utilized planter box mixing for on-farm seed treatment therfore, this scenario must be assessed to follow the application method referenced in the study.

Scenario 5 & 9 - The use of high pressure hand wand for treatment of citrus has been deleted from the assessment.

Registrant's Comment (page 3):

Janssen references a number of active labels and claims that in Table 5 the minimum application rate should be .0055 lb/ai per 100 lbs of seed.

HED's Response:

The minimum application rate of .003906 lb/ai per 100 lbs of seed came from an active label (reg. #7501-166). Please refer to your label.

Registrant's Comment (page 6):

Janssen recommends that for life-time average daily dose a duration of ten days per year for on-farm seed treatment and fifteen days per year for commercial seed treatment should be used.

HED's Response:

The revised chapter will reflect the registrants recommendation.

Registrant's Comment (page 6):

Janssen requests that since there is a 10 day duration for on-farm seed treatment and a 15 day duration for commercial seed treatment HED should use the short-term NOAEL from a 21 day dermal study to calculate the risk for these two scenarios.

HED's Response:

This issue has been taken to the HIARC (Hazard Identification Assessment Review Committee) on October 24, 2000. HIARC recommended that it would be appropriate to use the 21-day dermal study for assessing risk from this exposure because the treatment regime in the study (21 days) approximates exposure scenarios for on farm and commercial seed treatment and redefined short term exposure duration to include exposure ranging from 1-30 days. This change is applicable only for assessing the specific seed treatment exposure scenarios.

Registrant's Comment (page 8):

Janssen raises a number of issues relating to the post-application handling of treated citrus products.

HED's Response:

HED believes that there is a considerable exposure to citrus packers. As with the handler part of the assessment, there was no data upon which to perform the calculation of post-application risk to citrus packers. Therefore, a screening level was used along with the most conservative assumptions to calculate a risk. It should be noted that the assumptions used produced an acceptable risk. This is not an SOP, but until we receive a chemical specific study this is the only tool we have to assess for this post-application scenario.

This is a summary of comments and responses which were incorporated into the revised chapter. In addition, minor errors that were cited by Janssen were corrected.